SPECIFICATION AMENDMENTS

Amend the paragraph beginning on Page 8, line 13, as follows:

-- The preferred embodiment of the present invention, as shown in Fig. 1 through Fig. 11, discloses a ~~detachable~~ portable apparatus **10** for analyzing human gait comprising one or more external measuring devices **42**, such as one or more selectively positioned motion tracking units **20, 24** or a plantar pressure collection unit [[20]] **30** (PPC) ~~which provides a measurement~~ having a detachable insole [[22]] **32** fitted with a plurality of sensors **34** between the plantar side of the foot **12** and the sole **15** of the foot. The apparatus **10** is releasably secured about a user's foot during operation thereof. --

Amend the paragraph beginning on Page 8, line 17, as follows:

-- As shown in Figure 1 and in further detail in Figure 2, a first detachable motion tracking unit **20** is located at the rear of the foot **12** in proximity to the heel **13**, at a location above the ankle **14**. The first detachable motion tracking unit **20** includes a rearfoot motion collection and rate sensing unit **22** (FMC). As shown in Figure 1 and Figure 3, a second detachable motion tracking unit **24** is located at the rear of the foot **12** above the ankle **14**. The second detachable motion tracking unit **24** includes a lower shank motion collection and rate sensing unit **26** (SMC). --

Amend the paragraph beginning on Page 8, line 21, as follows:

-- A key component in determining the gait of a specific individual depends on the movement of the rearfoot **18** and the lower shank **19** areas. Independent motion measurement units **22, 26** are placed on the rear-foot **18** and the lower shank **19**, respectively, of the left and/or right foot. The units **22, 26** contain accelerometers **85, 95** and rate sensors **87, 97** to measure the

specific motion of the rearfoot **18** and lower shank **19**, respectively. When in conjunction with each other, the units **22, 26** can calculate the specific motion based on the data collected, the three-dimensional static and dynamic acceleration, angular velocity of the rearfoot **18** and the lower shank **19**. The ~~accelerometer~~ accelerometers **85, 95** each [[chips]] provide 2-axis tilt information, measuring both the static (gravity) and dynamic (body motion) movements. --

Delete the paragraph beginning on Page 9, line 8.

Amend the paragraph beginning on Page 9, line 12, as follows:

-- The plantar pressure collection unit **30**, comprises force sensor resistors and pressure sensors **34**, which are placed within insole **32** and located along the 1st phalange, 2nd phalange, and 3rd and 4th phalanges in the forefoot **16**, along the 1st metatarsal head, 2nd metatarsal head, and 4th metatarsal head in the forefoot **16**, along the 1st metatarsal base and 4th and 5th metatarsal bases in the midfoot **17**, underneath the distal portion of the medial and lateral sides of the calcaneus in the midfoot **17**, and at the medial and lateral surfaces of the calcaneus in the rearfoot **18** ~~located in an insole 32~~. Such configuration of the force sensor [[87]] resistors and pressure sensors [[70]] **34** allows for an accurate measurement of the plantar pressure [[30]] distribution. Specifically, the maximum pressure, location of the maximum pressure, mean pressure, and the pressure line can be determined. The layers on the insole **32** are flexible, electrically insulating, thin, and have resilient properties. The insole **32** [[unit]] is disposable and replaceable. The ~~insoles~~ insole **32** is [[are]] preferably made to selectively fit all shoe [[28]] sizes. --

Amend the paragraph beginning on Page 10, line 11, as follows:

-- In the processing and display unit **40**, a central processing unit (CPU) **44** controls all data input from the rearfoot motion control unit **22**, the lower shank motion control unit **26**, and the plantar pressure collection unit **30**. The data is processed by the CPU **44** for visual display [[40]] and storage. On the processing and display unit **40**, the vital gait information concerning the foot **12** from which the data is collected is displayed for the user to review. The information displayed comprises of the amount of eversion/inversion angle, gait identification (over-pronate, supinate, neutral), and the plantar pressure distribution in the form of a color coded mapping strategy where the data is normalized from the body weight calibration. The user can input commands to the processing and display unit **40** by indicating the start/stop **51**, **53** of the data measurement cycle and perform static calibration. --

Amend the paragraph beginning on Page 10, line 22, as follows:

-- Figure 5 is a top view of the processing and display unit **40** shown in Figure 1. The processing and display unit **40** comprises a casing **41**, with a plurality of electrical components [[42]] inside, including CPU **44**. A visual display on processing and display unit **40** is preferably a LCD [[58]] color display **50** in the shape of the sole of a foot **12**, which displays plantar pressure [[45]] at **46** and gait line data [[46]] at **45**. --

Amend the paragraph beginning on Page 11, line 4, as follows:

-- Rearfoot motion angel **47**, gait style identifier **48** and shoe-life evaluator at **49** are each displayed via the visual display of the processing and display unit **40**. Measurement cycle buttons and elapsed time are shown as start **51**, stop **53** and elapsed time display shown at **55**. A calibration button **57**, LED **58** and buzzer **59** are also preferably provided. One or more

input/output ports **60** connect to external measuring devices **42**, including the PPC unit **30**, FMC unit **22** and SMC unit **26**. --

Amend the paragraph beginning on Page 11, line 22, as follows:

-- Figure 7 is a top view of the force sensor resistors and pressure ~~sensor/FSR signal~~ sensors **34** placement in the PPC unit [[72]] **30**, shown in Figure 4. --

Amend the paragraph beginning on Page 12, line 1, as follows:

-- Figure 8 is a block diagram of the processing method, showing the FMC unit **22** of motion tracking unit **20** in one way electrical communication with a micro-controller **80**. Likewise, the SMC unit **26** of motion tracking unit **24** is also in one way electrical communication with the micro-controller **80**. A central processing unit **44** of the processing and display unit **40** is in two way electrical communication with the micro-controller **80**. A PPC unit [[72]] **30** directs [[FSR]] signals from the force sensor resistors and pressure sensors **34** to the central processing unit **82** and to the micro-controller **80**. Device input controls and LCD output **84** are in two way electrical communication with the central processing unit **82**. Memory **86** is also in two way electrical communication with the central processing unit **82**. An I/O unit **90** is also in two way communication with the central processing unit **82**. A telemetry unit **92** is in two way communication with the I/O unit **90**. --